Lincoln Fire & Rescue - Management Policy
Foam Application (MP855.15 01/28/05)

Outlines process of foam application.

Implemented 6/03

Purpose
To familiarize all members with the various types of foams carried on department apparatus. In addition, to provide instruction in the operation of the foam making equipment and the methods to be used for the effective application of various foams.

Procedure
A. All firefighters will demonstrate a knowledge of the various types of fires, and the type of foam needed to suppress that fire.

B. All firefighters will demonstrate the ability to correctly connect the foam eductor, the proper length and size of hose, with a nozzle, to the pump and provide the proper engine pressure to the eductor.

C. All firefighters will demonstrate the ability to correctly operate the pump and pre-piped foam system.

D. All firefighters will demonstrate the skill to operate a foam handline in a safe and effective manner.

Firefighting Operations with an In-Line Eductor
A number of hose lays are possible using foam or water/fog nozzles with in-line eductors. Generally, the eductor can be located at the pump discharge if the hose lay is between 100-250 feet of 1 3/4" hose. If a longer hose lay is necessary, 2 ½" hose should be used up to the eductor then the 1 3/4" hose from the eductor to the nozzle.

Procedure for AR/AFFF Foam (Class B Fires)
1. Locate the eductor within the limits described above. (Length of 1 3/4 hose after eductor must be between 100 & 250').

2. Engage the pump

3. Open the discharge to flow water to the eductor.

4. Set the pump to provide the correct pump pressure (see below).

5. If 2 ½" hose is used between the discharge and the eductor 2 psi per 100' of hose (for friction loss) needs to be added to that pressure.

6. If the eductor has a metering valve, set it at 3% to start. The concentration of foam will not change to 6% unless the incident commander determines that more foam is needed to suppress the fire.

7. Insert the pick-up tube into the AFFF container.

8. Resupply the containers in a rapid manner to ensure a continuous flow of foam to

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the nozzle, to extinguish and secure the fire.

9. After the operation, flush the nozzle, hose, and eductor by educting water through the pick-up tube.

IMPORTANT!
You need to know the type of nozzle you have, to figure out the pump pressure required to deliver good foam. If you have a fixed gpm nozzle, you will need to pump at 95 gpm. If you have an automatic nozzle, you will need to pump at 200 gpm plus friction loss for 2 ½" hose before the eductor.

Application
For optimum AFFF effectiveness, it should be widely distributed in a systematic manner by a procedure dependent on the type of nozzle used.

Fog nozzles-variable stream pattern: The initial application should employ slightly less than a 30 degree fog pattern. The nozzle should be moved up and down and from side to side to achieve maximum distribution. Move forward as the fire recedes.

Procedures for class A foam
1. Pump class A foam the same as class B foam except for the percentage of foam.
2. Class A foam shall be pumped at ½%, increasing to 1% if necessary.

Cleaning the Eductor
You need to flush the eductor with hot water. The eductor needs to be flushed one minute with the dial changed to each percentage setting to ensure the eductor is clean.

Pre piped systems also need to be flushed in the same manner although hot water will not be available.

Multiple Stories
Due to the pressure required to drain foam through the eductor, and the amount of friction loss caused by adding 5lbs per story. Theoretically you can not pump foam higher than 2 stories.